

Amendments to the Specification:

Please replace the title (page 1, line 1) with the following rewritten title:

- - ~~POLYLACTIC ACID-BASED SHEET MATERIAL AND~~
METHOD OF MAKING POLYLACTIC-ACID-BASED SHEET
MATERIAL - -

Please replace the paragraph beginning on page 1, line 5, with the following rewritten paragraph:

- - The present application is related to U.S. Application Serial Number ~~(Docket 86688)~~ 10/722,886, filed November 26, 2003, by Thomas M. Laney et al., and titled, "INKJET RECORDING ELEMENT AND METHOD OF USE." - - .

Please replace the paragraph beginning on page 5, line 24, with the following rewritten paragraph:

- - Additional polymers can be added to the polylactic-acid-based material so long as they are compatible with the polylactic-acid-based polymers. In one embodiment, compatibility is miscibility (defined as one polymer being able to blend with another polymer without a phase separation between the polymers) such that the polymer and the polylactic-acid-based polymer are miscible under conditions of use. Typically, polymers with some degree of polar character can be used. Suitable polymeric resins that are miscible with polylactic acid to some extent can include, for example, polyvinyl chloride, polyethylene glycol, polyglycolide, ethylene vinyl acetate, polycarbonate, polycaprolactone, polyhydroxyalkanoates (polyesters), polyolefins modified with polar groups such as maleic anhydride and others, ionomers, e.g. SURLYN® (DuPont Company), epoxidized natural rubber and other epoxidized polymers. - - .

Please replace the paragraph beginning on page 6, line 28, with the following rewritten paragraph:

- - Suitable polylactic-based polymers can be prepared by polymerization of lactic acid or lactide and comprise at least 50% by weight of lactic

acid residue repeating units (including lactide residue repeating units), or combinations thereof. These lactic acid and lactide polymers include homopolymers and copolymers such as random and/or block copolymers of lactic acid and/or lactide. The lactic acid residue repeating monomer units may be obtained from L-lactic acid, D-lactic acid, by first forming L-lactide, D-lactide or LD-lactide, preferably with L-lactic acid isomer levels up to 75%. Examples of commercially available polylactic acid polymers include a variety of polylactic acids that are available from Chronopol Inc. (Golden, CO), or polylactides sold under the ~~tradename~~trademark ECOPLA ~~EcoPLA~~[®]. Further examples of suitable commercially available polylactic acid are NATUREWORKS ~~Natureworks~~[®] polylactic acid from Cargill Dow, LACEA ~~Lacea~~[®] polylactic acid from Mitsui Chemical, or L5000 polylactic acid from Biomer. When using polylactic acid, it may be desirable to have the polylactic acid in the semi-crystalline form. - - .

Please replace the paragraph beginning on page 7, line 22, with the following rewritten paragraph:

- - The sheet material of the present invention is useful in making an inkjet recording element in which at least one layer has a continuous polylactic-acid-containing phase. Dispersed within that continuous phase is a second phase comprised of interconnecting microvoids which can contain inorganic particles, typically as void initiators. The polylactic acid and microvoids can be provided and generated as described below. The size of the void initiating particles which initiate the voids upon stretching should have an average particle size of 5 nm to 15 to μm , usually 0.1 to 10.0, most usually 0.3 to 2.0, and desirably 0.5 to 1.5 μm . Average particle size is that as measured by a SEDIGRAPH ~~Sedigraph~~[®] 5100 Particle Size Analysis System analyzer (by PsS, Limited). Preferred void initiating particles are inorganic particles, including but not limited to, barium sulfate, calcium carbonate, zinc sulfide, titanium dioxide, silica, alumina, and mixtures thereof, etc. Barium sulfate, zinc sulfide, or titanium dioxide are especially preferred. - - .

Please replace the paragraph beginning on page 16, line 6, with the following rewritten paragraph:

- - A two-layered polyester cast film is prepared in the following manner. The materials used in the preparation are:

1) a poly(ethylene terephthalate) (PET) resin (IV = 0.70 dl/g) for the base layer; 2) a compounded mix consisting of 58% by weight of an amorphous polyester resin, PETG 6763 ~~®~~-resin (IV = 0.73 dl/g) (Eastman Chemical Company) and 42% by weight of cross-linked PMMA microbeads approximately 1.7 μ m in size for the layer to be voided. - - .

Please replace the paragraph beginning on page 16, line 13, with the following rewritten paragraph:

- - The cross-linked PMMA microbeads were compounded with the PETG 6763 ~~®~~-resin through mixing in a counter-rotating twin screw extruder attached to a pelletizing die. Then both resins were dried at 65°C and fed by two plasticating screw extruders into a coextrusion die manifold to produce a two-layered melt stream (265 °C) which was rapidly quenched on a chill roll after issuing from the die. By regulating the throughputs of the extruders, it was possible to adjust the thickness ratio of the layers in the cast laminate sheet. In this case, the thickness ratio of the two layers was adjusted at 1:1 with the thickness of both cast layers being approximately 450 μ m. - - .

Please replace the paragraph beginning on page 16, line 23, with the following rewritten paragraph:

- - A two-layered polyester cast film is prepared in the following manner. The materials used in the preparation are:
1) a poly(ethylene terephthalate) (PET) resin (IV = 0.70 dl/g) for the base layer; 2) a compounded mix consisting of 31% by weight of an amorphous polyester resin, PETG 6763 ~~®~~-resin (IV = 0.73 dl/g) (Eastman Chemical Company) and 69% by weight of barium sulfate Barium Sulfate (BLANC FIXE MICRO barium sulfate Blanc Fixe Micro from Sachtleben) with a mean particle size of 0.8 μ m for the layer to be voided. - - .

Please replace the paragraph beginning on page 16, line 30, with the following rewritten paragraph:

- - The barium sulfate ~~Barium Sulfate~~ was compounded with the PETG 6763 ~~@-resin~~ through mixing in a counter-rotating twin screw extruder attached to a pelletizing die. Then both resins were dried at 65°C and fed by two plasticating screw extruders into a coextrusion die manifold to produce a two-layered melt stream (265 °C) which was rapidly quenched on a chill roll after issuing from the die. By regulating the throughputs of the extruders, it was possible to adjust the thickness ratio of the layers in the cast laminate sheet. In this case, the thickness ratio of the two layers was adjusted at 1:1 with the thickness of both cast layers being approximately 450 µm. - - .

Please replace the paragraph beginning on page 17, line 9, with the following rewritten paragraph:

- - A two-layered polyester cast film is prepared in the following manner. The materials used in the preparation are: 1) a poly(ethylene terephthalate) (PET) resin (IV = 0.70 dl/g) for the base layer; 2) a compounded mix consisting of 38% by weight of an amorphous polyester resin, PETG 6763 ~~@-resin~~ (IV = 0.73 dl/g) (Eastman Chemical Company) and 62% by weight of zinc sulfide ~~Zinc Sulfide~~ (SACHTOLITH ~~Sachtolith~~ HD-S zinc sulfide from Sachtleben) with a mean particle size of 0.35 µm for the layer to be voided. - - .

Please replace the paragraph beginning on page 17, line 16, with the following rewritten paragraph:

- - The zinc sulfide ~~Zinc Sulfide~~ was compounded with the PETG 6763 ~~@-resin~~ through mixing in a counter-rotating twin screw extruder attached to a pelletizing die. Then both resins were dried at 65°C and fed by two plasticating screw extruders into a coextrusion die manifold to produce a two-layered melt stream (265 °C) which was rapidly quenched on a chill roll after issuing from the die. By regulating the throughputs of the extruders, it was possible to adjust the thickness ratio of the layers in the cast laminate sheet. In this case, the thickness ratio of the two layers was adjusted at 1:1 with the thickness of both cast layers being approximately 450 µm. - - .

Please replace the paragraph beginning on page 21, line 6, with the following rewritten paragraph:

- - The material used in the preparation was a compounded mix consisting of 58% by weight of an amorphous polyester resin, PETG 6763 @ resin (IV = 0.73 dl/g) (Eastman Chemical Company) and 42% by weight of cross-linked PMMA microbeads approximately 1.7 μm in size. - - .

Please replace the paragraph beginning on page 21, line 10, with the following rewritten paragraph:

- - The cross-linked PMMA microbeads were compounded with the PETG 6763 @ resin through mixing in a counter-rotating twin screw extruder attached to a pelletizing die. The resin pellets were then was dried at 65°C and fed by a plasticating screw extruder into an extrusion die manifold to produce a single layer melt stream (265 °C) which was rapidly quenched on a chill roll after issuing from the die. By regulating the throughput of the extruder, it was possible to adjust the thickness of the cast sheet to approximately 900 μm . - - .

Please replace the paragraph beginning on page 21, line 18, with the following rewritten paragraph:

A single-layer polyester cast film is prepared in the following manner. The material used in the preparation was a compounded mix consisting of 31% by weight of an amorphous polyester resin, PETG 6763 @ resin (IV = 0.73 dl/g) (Eastman Chemical Company) and 69% by weight of ~~Barium Sulfate~~ barium sulfate (BLANC FIXE MICRO barium sulfate ~~Blanc Fixe Micro~~ from Sachtleben) with a mean particle size of 0.8 μm . - - .

Please replace the paragraph beginning on page 21, line 23, with the following rewritten paragraph:

- - The barium sulfate ~~Barium Sulfate~~ was compounded with the PETG 6763 @ resin through mixing in a counter-rotating twin screw extruder attached to a pelletizing die. The resin pellets were then was dried at 65°C and fed by a plasticating screw extruder into an extrusion die manifold to produce a single layer melt stream (265 °C) which was rapidly quenched on a chill roll after

issuing from the die. By regulating the throughput of the extruder, it was possible to adjust the thickness of the cast sheet to approximately 900 μm . - - .

Please replace the paragraph beginning on page 24, line 9, with the following rewritten paragraph:

- - Porous Composition 1

Water: 66 parts

AERSOSIL MOX ~~Aerosil-Mox~~ 80 \oplus silica (Degussa Corporation): 8 parts

NALCO ~~Nalco~~ 2329 \oplus colloidal silica (Nalco Chemical Co.): 18 parts

N-(2-aminoethyl)-3-aminopropylmethyldimethoxysilane (United Chemicals Technologies, Inc.): 1 part

Styrene/butyl acrylate core shell latex: 6 parts

KYMENE ~~Kymene~~ 557H \oplus wet strength resin (Hercules Inc.): 1 part - - .

Please replace the paragraph beginning on page 24, line 18, with the following rewritten paragraph:

- - The AEROSIL MOX ~~Aerosil-Mox~~ 80 \oplus silica was added to a 40 % solution of NALCO ~~Nalco~~ 2329 \oplus colloidal silica with stirring over a one hour time period. N-(2-aminoethyl)-3-aminopropylmethyl-dimethoxysilane was added to this mixture and the mixture was sonicated for 12 hours. The styrene/butyl acrylate core shell latex, and KYMENE ~~Kymene~~ 557H \oplus wet strength resin were added to the resulting solution and stirred for 30 minutes. - - .

Please replace the paragraph beginning on page 24, line 24, with the following rewritten paragraph:

- - Porous Composition 2

SYLOID ~~Syloid~~ 620 \oplus silica (Grace Davison): 6.5 parts

GOHENSOL ~~Gohsenol~~ GH-23 \oplus poly(vinyl alcohol) (The Nippon Synthetic Chemical Industry Co., Ltd.): 3.5 parts

Water: 90 parts - - .

Please replace the paragraph beginning on page 24, line 29, with the following rewritten paragraph:

- - The GOHENSOL ~~Gohsenol~~ GH-23 ® poly(vinyl alcohol) was added with stirring to water over a 20 minute time period. The mixture was then heated to 90° C and stirred until a clear solution was obtained. This solution was cooled to room temperature and the SYLOID ~~Syloid~~ 620® silica was added with stirring. - - .

Please replace the paragraph beginning on page 25, line 3, with the following rewritten paragraph:

- - Porous Composition 3

GASIL HP39 ® silica gel (Crossfield Limited): 6.5 parts

GOHENSOL ~~Gohsenol~~ GH-23 ® poly(vinyl alcohol): 3.5 parts

Water: 90 parts - - .

Please replace the paragraph beginning on page 25, line 7, with the following rewritten paragraph:

- - GOHENSOL ~~Gohsenol~~ GH-23 ® poly(vinyl alcohol) was slowly added with stirring to room temperature water over a 20 minute time period. The mixture was then heated to 90° C and stirred until a clear solution was obtained. This solution was cooled to room temperature and the GASIL HP39 ® silica gel was added with stirring. - - .